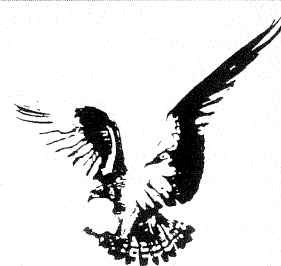


STEREO RADIO/TAPE RECORDER
STEREO-RADIO-CASSETTENREKORDER
RADIO/MAGNETOPHONE A CASSETTES STEREOPHONIQUE
KASSETTRADIO FÖR STEREO
RADIO/REGISTRATORE STEREO A CASSETTE

GF-9000H

OPERATION MANUAL
BEDIENUNGSANLEITUNG
MODE D'EMPLOI
BRUKSANVISNING
MANUALE DI ISTRUZIONI

*The
Searcher*



20cm
WOOFER
2-way 4-speaker

 **DOLBY SYSTEM** ®

 **APLD**
Auto Program Locate Device

Soft-Touch
Soft-Touch Operation

METAL

SHARP

ENGLISH

DEUTSCH

FRANÇAIS

SVENSKA

ITALIANO

We at Sharp would like to take this opportunity to thank you for purchasing one of our products. In order to obtain maximum performance, please read all instructions carefully.

TABLE OF CONTENTS

NAMES OF CONTROLS	3-5
PRECAUTIONS.	6
PREPARATION FOR USE	6-7
1 Supply voltage.	6
2 AC supply voltage selector.	6
3 Operation from AC power supply.	6
4 Operation from DC power supply: batteries	6-7
5 Operation from DC power supply: car battery	7
6 Speaker selector switch.	7
RADIO OPERATION	7-8
1 Broadcast reception: FM.	7
2 Broadcast reception: SW, MW and LW	8
CASSETTE RECORDER OPERATION	8-13
1 Cassettes	8
2 Loading and unloading cassette tapes. . . .	9
3 Tape selector switch	9
4 Fast forward/rewind	9
5 Playback	10
6 APLD (Auto Program Locate Device)	10-11
7 Recording from the unit's radio.	12
8 Recording from the unit's microphones . . .	12
9 APLD spacing	13
10 Erasing recorded tapes	13
11 Sleep system.	13
USE WITH EXTERNAL UNITS	13-15
1 Recording from an external microphone	13
2 Connecting an external record player. . .	14
3 Connecting an external amplifier	14
4 Dubbing	14
5 Headphones	14
6 Connecting external speakers	14
7 Connecting a timer unit	15
MAINTENANCE	15
SPECIFICATIONS	15

Note:

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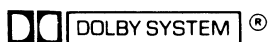
In order to prevent this product from damages at times as transportation, repack it as illustrated on the flap of the packing case.

Um Beschädigung beim Transport zu verhindern, verpackt man das Gerät wie auf der Lasche des Kartons dargestellt.

Afin d'éviter d'endommager ce produit, pendant le transport, le remettre dans son emballage de la façon indiquée sur le rabat de la boîte d'emballage.

För att skydda produkten för skador under dess transport, skall du återpacka den i packlådan enligt illustrationen på packlådans flik.

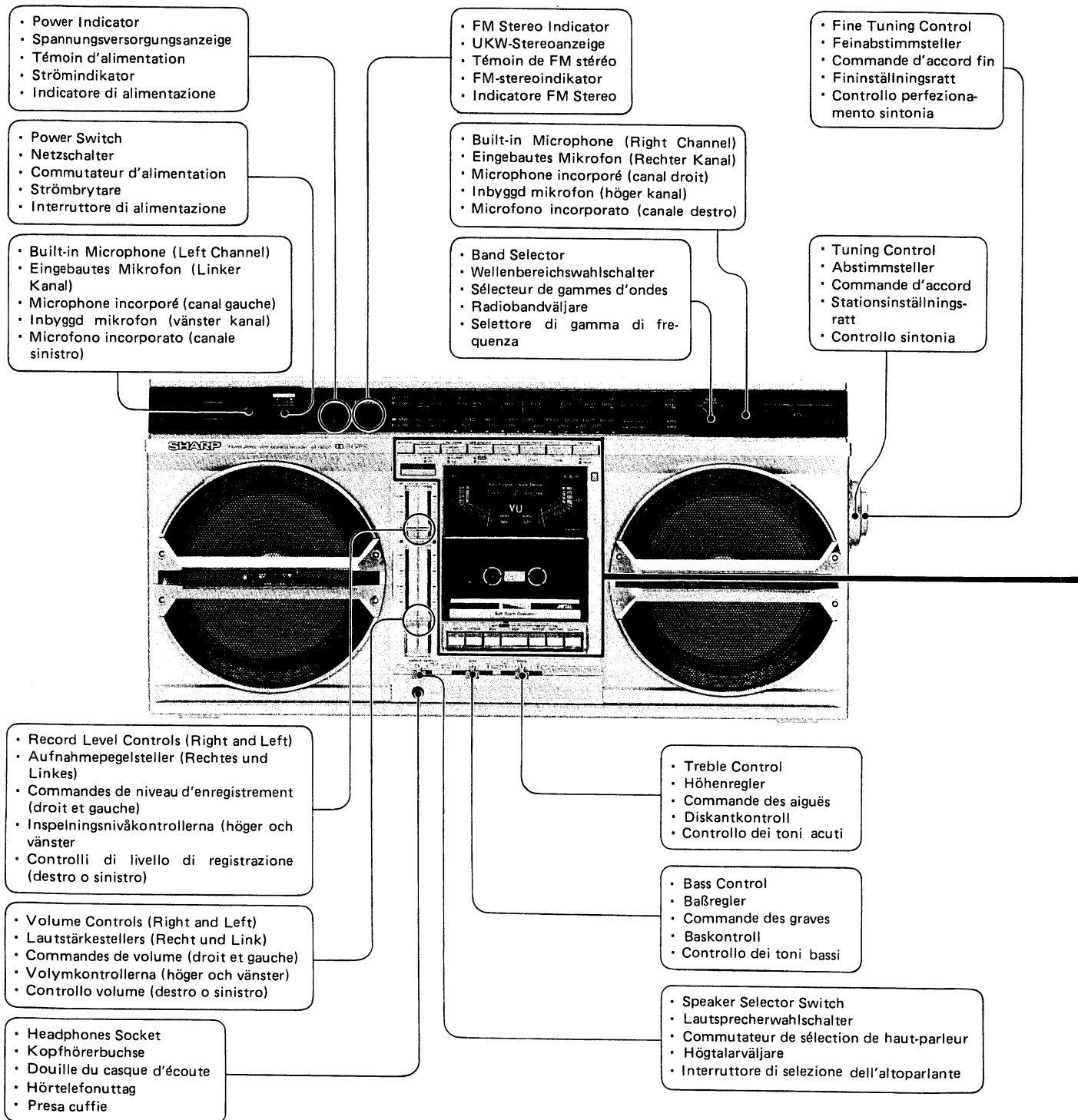
Per evitare che questo prodotto subisca del danni durante il trasporto, imballarlo nel modo illustrato sul coperchio dell'imballaggio stesso.



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This apparatus complies with requirements of BS 800 and EEC directive 76/889/EEC.
Das Apparat stimmt mit den Bedingungen der EG-Richtlinien 76/889/EWG überein.
Cet appareil répond aux spécifications de la directive CCE 76/889/CCE.
Quest' apparecchio è stato prodotto in conformità alle direttive CEE 76/889/CEE.
Dit apparaat voldoet aan de vereisten van EEG-reglementen 76/889/EEG.
Apparatet opfylder kravene i EF direktivet 76/889/EF.

NAMES OF CONTROLS / BEZEICHNUNG DER BEDIENUNGSELEMENTE



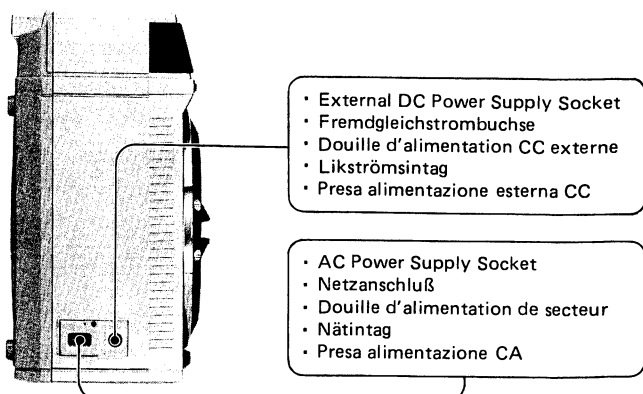
For AC voltage level selection, refer to page 6, AC SUPPLY VOLTAGE SELECTOR.

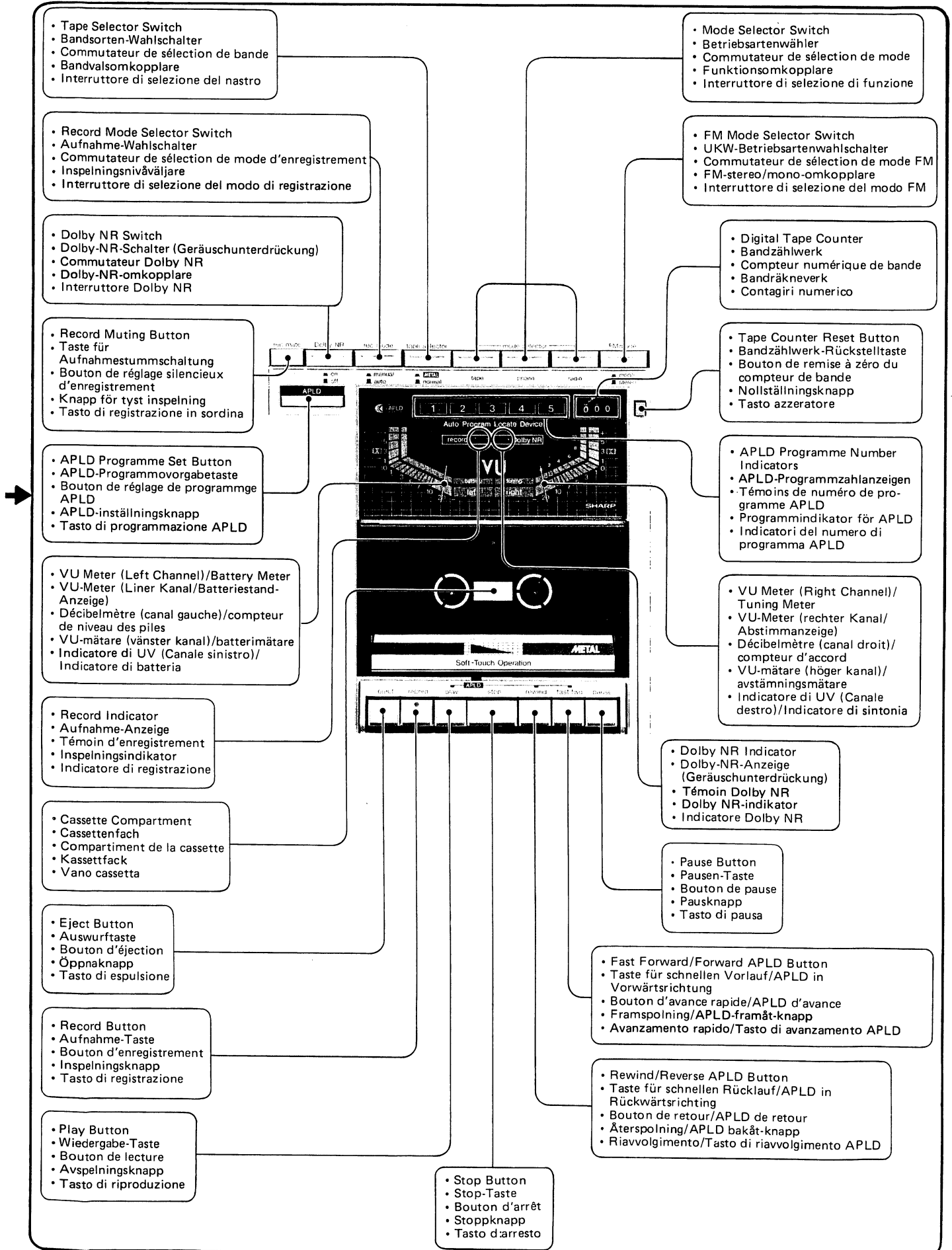
Für die Netzspannungsauswahl, siehe Seite 16 NETZ-SPANNUNGSWÄHLER.

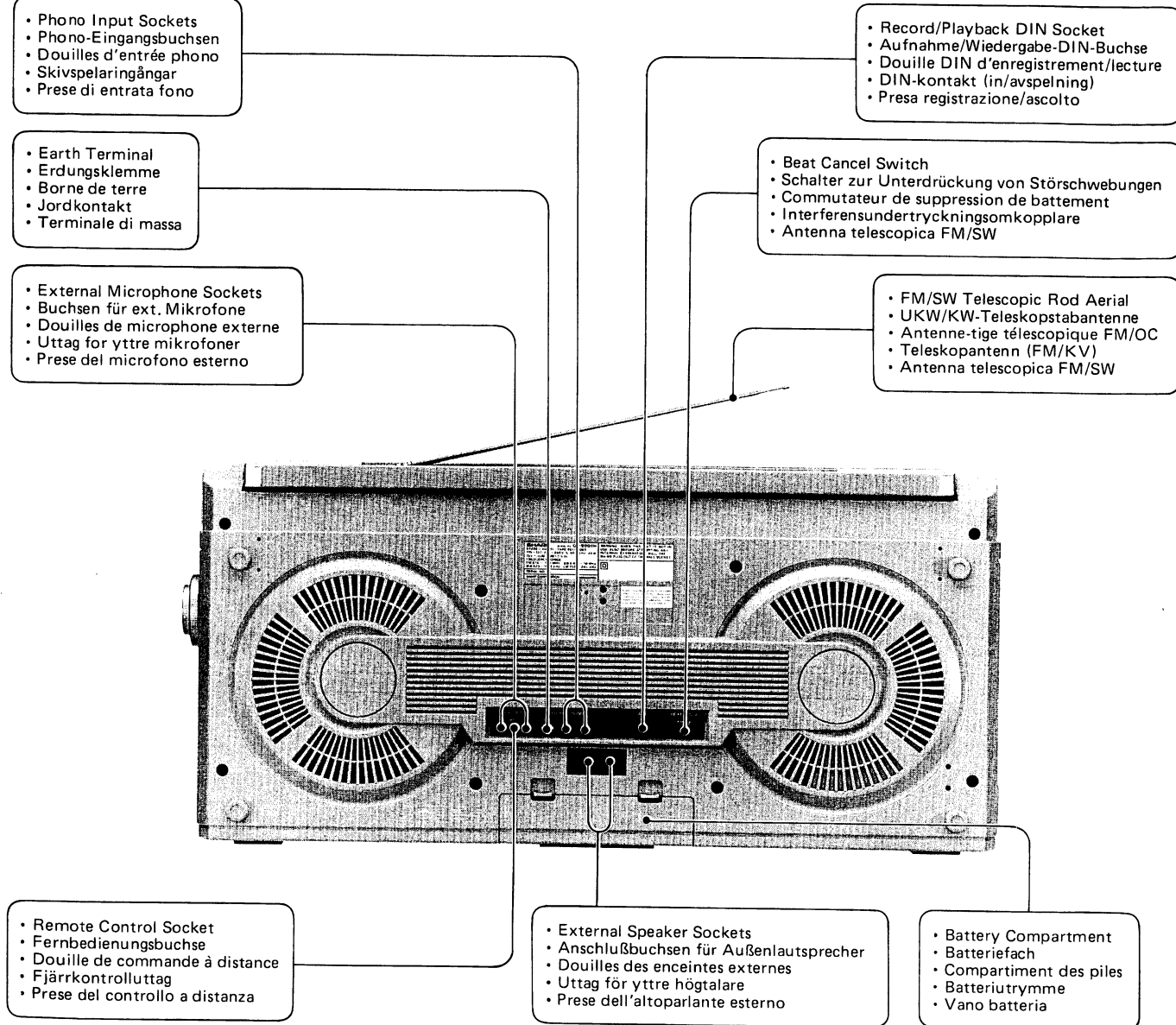
Pour la sélection du niveau de tension, voir page 27, SELECTEUR DE TENSION DE SECTEUR.

För inställning av nätspänningsnivån, se avsnitt SPÄNNINGSVÄLJARE på sidan 37.

Per quanto riguarda la selezione del livello di voltaggio AC vedere a pag. 47 SELETTORE DI TENSIONE CA.







When the power switch is set at "⏻ /sleep" position, the unit is on stand-by, which means that the AC current is cut off only secondarily. Accordingly, be sure to pull off the mains plug out of the wall outlet before making any internal examination or repairs.

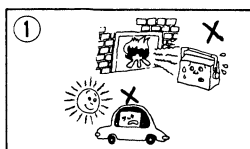
Bei Einstellung des Funktionswahlschalters auf der "⏻ /sleep" Stellung ist das Gerät in Bereitschaftsstand, was bedeutet, daß die Netzspannung nur sekundär unterbrochen ist. Daher, vor jeder internen Prüfungs- oder Reparaturarbeit unbedingt den Netzstecker aus der Netzsteckdose herausziehen.

Quand le commutateur d'alimentation est réglé sur la position "⏻ /sleep", l'appareil se trouve en attente, ce qui signifie que le courant n'est coupé seulement que secondairement. Par conséquent, avant d'entreprendre toute inspection ou réparation intérieure, s'assurer de débrancher la fiche de connexion au réseau de la prise murale.

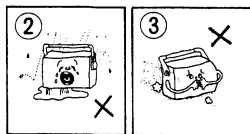
När funktionsomkopplaren är i läge "⏻ /sleep", är apparaten i beredskapsläge. Det betyder att strömmen är fränkopplad endast sekundärt. Se därför till att apparaten kopplas från nätet innan apparaten öppnas för inspektioner eller reparationer.

Quando il selettore di funzione è posto in posizione "⏻ /sleep", l'unità si trova in "stand-by" il che significa che la corrente di alimentazione è isolata solo secondariamente. Di conseguenza, assicuratevi di aver disinserito la spina principale dalla presa di rete a muro prima di effettuare qualsiasi ispezione interna o riparazione.

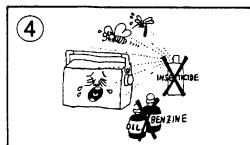
PRECAUTIONS



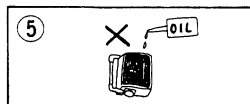
1. Do not expose the unit to temperatures greater than 60°C (140°F). This includes leaving the unit inside closed vehicles, placing it in direct sunlight or in the vicinity of heaters, etc.



2. Do not expose the unit to moisture, as this will result in damage to internal circuitry.



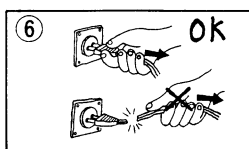
3. Do not locate or store the unit for extended periods in places with high humidity or high concentrations of dust.



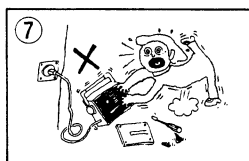
4. Do not apply petroleum, any organic solvents, or insecticides to the cabinet surface, as this may result in cracking or other surface damage.



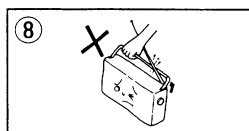
5. Do not apply oil to any part of the unit.



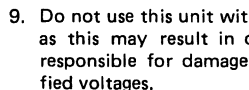
6. Be sure to hold the AC supply plug — NOT THE LEAD — when removing this plug from the AC outlet. Removing the plug by pulling the lead may result in damaged or broken connections.



7. Remove the AC supply lead before servicing or cleaning heads, rollers, etc. Do not remove the unit cover, as this may result in electric shock. Refer all servicing and repairs to your local SHARP dealer.



8. When lifting the unit by the handle, the telescopic rod aerial should not be raised because it may be bent or torn off.



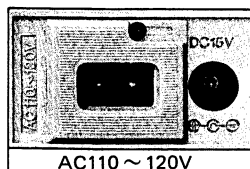
9. Do not use this unit with AC mains voltages other than those specified, as this may result in damage, fire, etc. SHARP may NOT be held responsible for damage resulting from use of this unit with unspecified voltages.

PREPARATION FOR USE

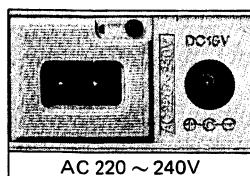
1 SUPPLY VOLTAGE

The unit operates on AC 110V ~ 120V or AC 220V ~ 240V, 50Hz or 60Hz. The unit may also be operated on an internal (batteries) or external DC supply of 15V.

2 AC SUPPLY VOLTAGE SELECTOR



AC110 ~ 120V

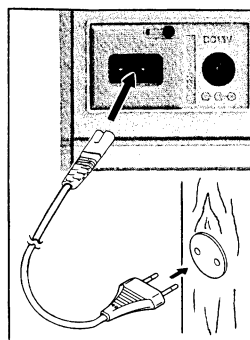


AC 220 ~ 240V

Be sure to check the voltage setting of the voltage selector before connecting AC supply lead plug to the AC outlet. If necessary, adjust the setting as follows:

1. Loosen the securing screw of the supply voltage selector.
2. Slide the panel right or left, until the correct voltage reading is seen on either side.
3. Secure the screw.

3 OPERATION FROM AC POWER SUPPLY



Connect the AC supply lead to the unit's AC power supply socket. Next, connect the AC supply lead plug to the AC outlet. Supply is either 110V ~ 120V or 220V ~ 240V.

NOTE:

1. Inserting the AC supply lead into the unit automatically disconnects the batteries. As a result, the AC supply lead must be removed from the unit in order to operate the unit on battery power.
2. An AC power supply should be used whenever possible in order to conserve battery power.

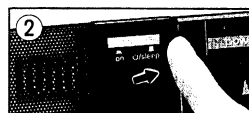
WARNING:

When this unit is not in use, also before attempting any internal examination, pull the mains plug out of the wall socket.

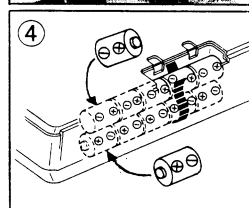
4 OPERATION FROM DC POWER SUPPLY: BATTERIES

BATTERY INSTALLATION

1. Disconnect the AC supply lead from the GF-9000H.
2. Set the power switch to the "⏻ / sleep" position.

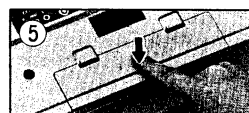


3. Remove the battery compartment cover.



4. Load ten new batteries (1.5V cell x 10) — UM/SUM-1, R-20, HP-2 or D type — into the compartment.

Note: • Battery polarity and location are shown inside the compartment.
• Lay the ribbon underneath the batteries. The ribbon will aid in removing the batteries.
• Be careful to install batteries in series.



5. Replace the battery compartment cover.
The unit is now ready for internal battery power supply operation.

NOTE:

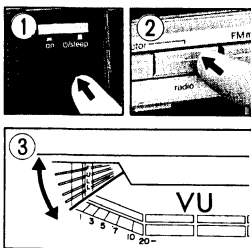
1. Remove the batteries when they become weak or when the unit is not in use for extended periods. This will prevent damage to the unit from battery leakage at such times.
2. Be sure to keep battery contact parts clean. Dust accumulations between batteries and battery terminals may result in imperfect contacts, and may even prevent the unit from operating.

— OPERATION FROM DC POWER SUPPLY: BATTERIES —

BATTERY LEVEL CHECK

The battery meter shows whether or not the DC power supply is adequate for unit operation.

In the case that AC supply lead or car battery adaptor is connected to the unit, disconnect it.

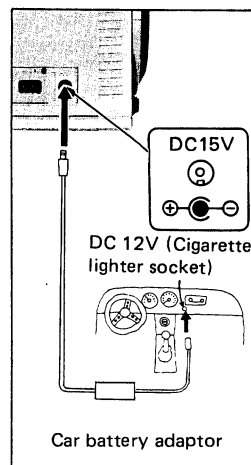


1. Set the power switch to the "on" position.
2. Depress the "radio" button of the mode selector switch.
3. If the battery meter is within the "FULL" limits, the battery level is adequate. Should it fall below the line, it means the battery level is inadequate and the batteries should be replaced.

NOTE:

When batteries are weakened, recording sometimes becomes impossible, even though radio broadcasts may be audibly received. Batteries should be replaced at once.

5 OPERATION FROM DC POWER SUPPLY: CAR BATTERY



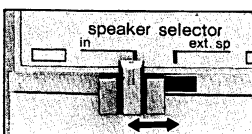
The unit can be operated on an external 15 volt DC supply. With the use of the car battery adaptor (optional accessory) it is possible to use a 12 volt car battery.

1. Connect the supply lead with adaptor plug to the external DC power supply socket (DC 15V).
2. Connect the other end of the lead — with connecting plug — to the cigarette lighter socket of the car instrument panel.

NOTE:

Use of external DC power source will automatically disconnect the internal batteries.

6 SPEAKER SELECTOR SWITCH



This selector is for choosing between external and built-in speakers when an external speaker system is connected to the GF-9000H. When you wish to use the built-in speakers, slide the knob to the "in" position, and when you wish to listen with the external speakers, slide the knob to the "ext.sp" position.

CAUTION:

When an external speaker system is not connected to the unit, be sure to set the speaker selector to the "in" position. If it is set in the "ext.sp" position, no sound will come out.

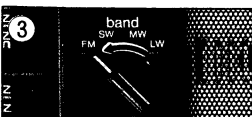
When connecting an external speaker system to the unit, please refer to page 14, "CONNECTING EXTERNAL SPEAKERS".

RADIO OPERATION

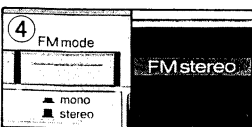
1 BROADCAST RECEPTION: FM



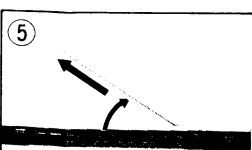
1. Set the power switch to the "on" position. The power indicator will illuminate.
2. Depress the "radio" button of the mode selector switch.



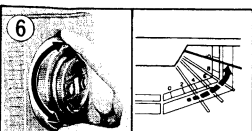
3. Turn the band selector to the "FM" position.



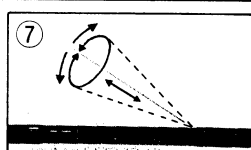
4. Set the FM mode selector switch to the "stereo" position. FM stereo indicator illuminates if FM stereo broadcast is received. Even if the FM mode selector switch is in the "stereo" position, mono broadcast will be received when the station is not transmitting a stereo programme. Set the FM mode selector switch to the "mono" position if stereo reception is unsatisfactory.



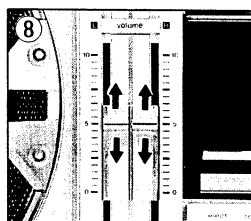
5. Raise and extend the telescopic rod aerial.



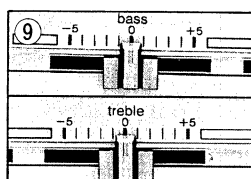
6. Rotate the tuning control in the appropriate direction until the desired broadcast is received clearly and the tuning meter needle is at its highest deflection.



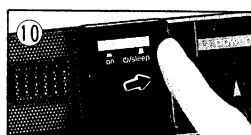
7. Adjust the position and length of the aerial until broadcast reception signal is at peak strength.



8. Slide the volume controls to adjust sound to the desired level. Since these volume controls contain separate right and left channels, right and left speaker volume balance may be adjusted to accommodate the listener's position. This feature may also be used for balance control. Under normal listening conditions, right and left channels should be adjusted to the same level.

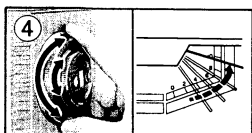
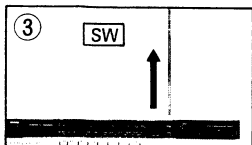
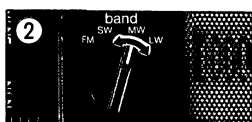


9. Slide the bass and treble controls to adjust bass and treble content of the audio reproduction. Move these controls
 - a. toward the "+5" in order to boost,
 - b. toward the "0" to flatten, and
 - c. toward the "-5" to cut bass and treble content.



10. Set the power switch to the "off/sleep" position to terminate radio operation and extinguish the power indicator.

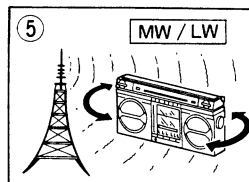
2 BROADCAST RECEPTION: SW, MW and LW



1. Perform steps 1 and 2 of "BROADCAST RECEPTION: FM" (see page 7).
2. Turn the band selector to the "SW", "MW" or "LW" position.
SW For short wave
MW For medium wave
LW For long wave

3. For band SW, raise and extend the telescopic rod aerial vertically to its full length.

4. Rotate the tuning control in the appropriate direction until the desired broadcast is received clearly and the tuning meter needle is at its highest deflection. Fine tuning control functions only for band SW.



5. In the MW or LW position, rotate or locate the unit to receive peak signal strength of the MW or LW broadcast.
6. Perform steps 8 – 10 of "BROADCAST RECEPTION: FM" (see page 7).

CAUTION:

- * After use, (1) set the power switch to the "⏻ /sleep" position and (2) disconnect the AC supply lead plug from the AC mains outlet.
- * Disconnect AC supply lead plug from AC mains outlet in order to cut off AC power supply to the unit.

ENGLISH

CASSETTE RECORDER OPERATION

1 CASSETTES

CASSETTE TAPE SELECTION

The quality and condition of the cassette tapes used will have a direct effect on the performance of this unit.

Low quality tapes tend to break and stretch, and a broken tape can easily become entangled in the drive mechanism, causing major damage. Stretched tapes will run at uneven speeds and distort anything recorded on them.

- * Use only well-known brands of tape.
- * The use of C-120 (120 minutes) cassettes is not recommended. The extreme thinness of this tape may result in breakage or other problems.

METAL TAPE

With conventional tapes (Normal), Chromium Dioxide (CrO₂) and Ferri-Chrome (Fe-Cr) tapes, magnetic oxide pigment is coated onto a base film. Metal (Metal Alloy) tape uses a pure unoxidized metal as the magnetic material, and has the following superior characteristics:

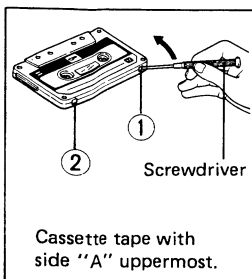
1. Higher maximum output level (MOL) over the entire frequency range.
2. Lower distortion level at higher inputs.
3. Lower noise level at high frequencies.
4. Excellent frequency response at higher input levels, both for recording and reproduction.
5. Wider dynamic range (the range between the smallest and largest clearly reproducible signal), allowing recording and reproduction with lower distortion and noise.

In order to make the most of the above-mentioned Metal tape characteristics, this tape recorder has been designed with circuitry for Metal tapes (Metal tape position).

NOTE:

- * Proper recording and erasure can not be made with Metal tape unless a tape recorder with a metal tape switch is used and the "Metal" position selected.
- * Read the reference guide included with the Metal tape carefully before use.

PROTECTION AGAINST CASSETTE TAPE ERASURE



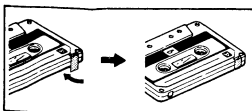
All cassette tapes are provided with tabs which, when in place, allow tape erasure to be performed. If these tabs are removed, the tape cannot be erased (the record (●) button cannot be depressed).

To protect the A (or "1") side of cassette tape, break off the A side tab with a screwdriver.

Follow the same procedure for B (or "2") side.

- ① Side "A" protection tab
- ② Side "B" protection tab

The tape can be re-recorded or erased by covering the tab holes with plastic tape.



IMPORTANT NOTES CONCERNING CASSETTE TAPES

- I. After a period of time, especially when inexpensive brands of tape are used, the sound during playback may become "muffled" or, in extreme cases, almost inaudible.

This is, most frequently, NOT A FAULT OF THE MACHINE ITSELF, but due to a deposit of oxide and other contaminating elements on the tape head.

This problem may be easily corrected by using a head-cleaning cassette. Follow the instructions provided with the cleaner carefully. DO NOT OVERUSE, as this may cause undue wear. Refer to instructions on page 15 for head cleaning.

The tape head is a delicate precision component, and serious damage may result if sharp implements are used for cleaning purposes.

- II. Other common causes of trouble are:

- a) Tape jamming – leading to uneven speed during playback.
- b) Tape tangling – in which the tape wraps itself around vital parts of the mechanism.

To reduce the chances of these problems occurring, the following precautions should be taken.

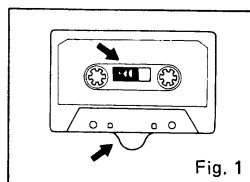


Fig. 1

1. Check to ensure there are no loose layers of tape visible through the cassette centre window or open end (see Fig. 1).

Tighten these loose layers with a pencil or ball-point pen before inserting the cassette into the unit (see Fig. 2).

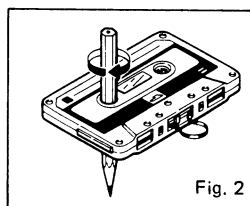


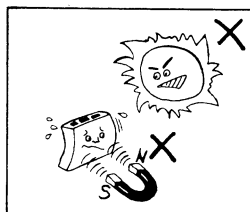
Fig. 2

2. Uneven winding of the tape on the reel can cause ridges (visible through the cassette window), which produce jamming and make the tape transport speed during playback or recording irregular.

In most cases, these ridges may be removed by one complete fast forward winding and rewinding of the tape.

NOTES FOR STORING CASSETTE TAPES

1. Do not locate cassettes near objects with a strong magnetic field, such as radios, TV sets or loudspeakers. Magnetic fields may reduce the tape sensitivity or even erase the recording.
2. Do not store cassettes for extended periods in hot, moist or dusty location.



2 LOADING AND UNLOADING CASSETTE TAPES

NOTE:

Stop the tape before opening the cassette compartment.

LOADING

1. Depress the eject (▲) button to open the cassette compartment.



2. Load the cassette tape into the compartment so that the title of the tape track to be used is facing outwards. If tape is wound onto the right-hand spool, it must either be rewound, or the tape side to be used must be reversed.



Note:

The cassette will not enter the compartment with the exposed tape edge uppermost.

3. Close the compartment lid.



UNLOADING

Depress the eject (▲) button to open the cassette compartment and remove the tape.

3 TAPE SELECTOR SWITCH

mode	tape selector
normal	normal
metal	METAL

Set the tape selector switch before commencing the playing or recording to the appropriate "normal" or "METAL" position as indicated in the table. Compare type number of tape with characteristics — "normal" or "METAL".

- * Use the table below to determine the proper tape selector position. For tapes not listed in this table, check the tape manufacturer's instructions.
- * The following types of cassette tapes are suitable for use with this unit.

Normal	Sharp C-60SD/C-90SD Maxell UD C60/C90
Metal	Sharp C-46MX/C-60MX/C-90MX TDK MA-C60/C90

Brand	Type of tape	Switch position
SHARP	C-60S/C-90S	normal
	C-60SD/C-90SD	normal
	C-46MX/C-60MX/C-90MX	METAL
MAXELL	LN C 60/C 90	normal
	UD C 60/C 90	normal
	UD XLI C 60/C 90	normal
	XL I-S60/S90	normal
TDK	MX 60/90	METAL
	D-C60/C90	normal
	AD 60/90	normal
	MA-C60/C90 MA-R C60/C90	METAL
SONY	LNx 60/90	normal
	HFX 60/90	normal
	SHF 60/90	normal
	METALLIC 60/90	METAL
FUJI FILM	FL C-60/C-90	normal
	FX-I C-60/C-90	normal
	METAL C-60/C-90	METAL
SCOTCH	MASTER I C-60/C-90	normal
	METAFINE C-60/C-90	METAL
MEMOREX	MRX3 OXIDE C-60/C-90	normal
AMPEX	GRAND MASTER I C-60/C-90	normal
BASF	LH 60/90	normal
	FSLH I 60/90	normal
	METAL IV 60/90	METAL

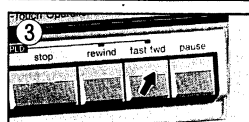
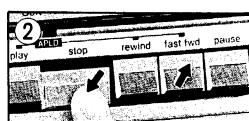
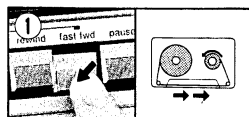
4 FAST FORWARD/REWIND

Before fast forward or rewinding operation:

- * Depress the stop (■) button if the deck is in a mode other than neutral.

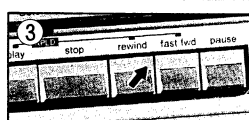
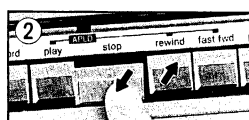
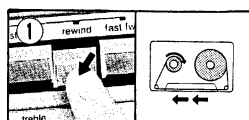
FAST FORWARD

1. Depress the fast forward (▶▶) button for fast forward winding of the tape.
2. Depress the stop (■) button to stop the tape and return the deck to the neutral mode.
3. When the end of the tape is reached, the tape will stop automatically, and the recorder will return to the neutral mode. (Auto stop)



REWIND

1. Depress the rewind (◀◀) button to rewind the tape.
2. Depress the stop (■) button to stop the tape and return the deck to the neutral mode.
3. When the end of the tape is reached, the tape will stop automatically, and the recorder will return to the neutral mode. (Auto stop)



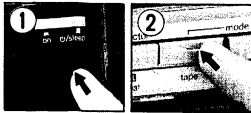
NOTE:

- * The automatic stopping mechanism may not operate during fast forward winding or rewinding of the tape when the unit is using a DC power supply (batteries) and the battery level is inadequate.
- * Depress the stop (■) button before attempting to change the operating function of the recorder.

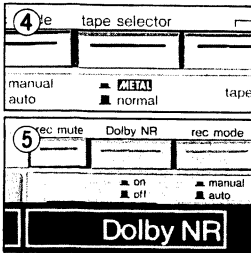
CAUTION:

- Accidentally depressing the play (▶), or record (●) button and stop (■) button in sequence when the AC supply lead is unplugged or batteries removed will cause the unit to enter the play mode upon depressing the fast forward (▶▶) or rewind (◀◀) button after the AC supply lead has been plugged in or batteries installed. To correct this, first depress the stop (■) button and then either the fast forward (▶▶) or rewind (◀◀) button. The unit will return to normal operation and enter either the fast forward or rewind mode, respectively.
- When the batteries are too weak, the unit will not function by depressing the play (▶) button or record (●) button and it is then not possible to return the play (▶) button or record (●) button completely by depressing the stop (■) button. In that case, replace the batteries or use an AC supply lead and depress the play (▶) button or record (●) button.

5 PLAYBACK

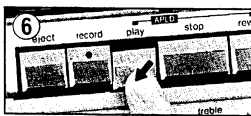


1. Set the power switch to the "on" position.
2. Depress the "tape" button of the mode selector switch.
3. Load a pre-recorded cassette into the cassette compartment (refer to instructions on page 9).
4. Set the tape selector switch to the proper position (refer to instructions on page 9).
5. If the tape has been recorded with the Dolby NR system, set the Dolby NR switch to the "on" position (The Dolby NR indicator illuminates.); if not, the Dolby NR switch should be set to the "off" position.

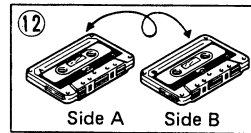
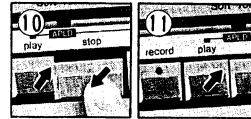
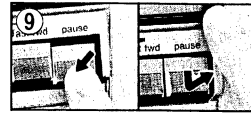


Note:

- Any tape recorded with the Dolby NR system should be reproduced with the Dolby NR switch "on". If this is not done, there will be a decrease in sound quality.



6. Depress the play (▶) button to begin playback.
7. Adjust volume and sound quality (refer to instructions on page 7).



8. For headphones listening, connect the headphones plug into the "phones" socket (refer to instructions on page 14).
9. Depress the pause (II) button to discontinue playback temporarily. The tape will stop at the point where this button is depressed, and resume from this point when the button is depressed a second time.
10. Depress the stop (■) button in order to stop tape motion before the end of the tape is reached.
11. The unit automatically returns to the neutral mode when the end of tape is reached. (Auto stop)
12. To listen to the reverse side of the tape, unload the cassette, reverse it and reload it in the cassette compartment. Any adjustments for listening should be made according to previous instructions in this section.

CAUTION:

- After use, depress the stop (■) button to return the unit to the neutral mode, and set the power switch to the "⏻/sleep" position.
- Disconnect the AC supply lead plug from the AC outlet in cases where the unit will not be used for extended periods.
- Do not allow any buttons to remain depressed when the unit is not in use, as this may result in damage to the pinch roller.

6 APLD (Auto Program Locate Device)

INTRODUCTION

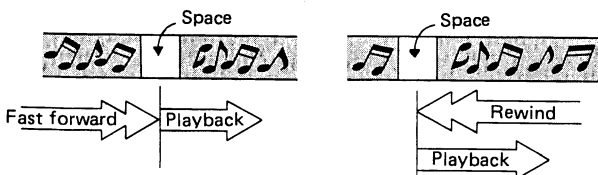
Sharp has solved one of the main drawbacks of cassette play in comparison with record play: that of finding the beginning of a selection. To eliminate the need for trial, error and delay, APLD was developed to automatically scan a tape for the blank space between recordings, and start playback from the beginning of the recording following this space.

Forward-APLD

Performs fast forward winding to programmed spaces, and starts playback from the beginning of the selections following these spaces (refer to p. 11).

Reverse-APLD

Rewinds to programmed spaces, and starts playback from the beginning of selections following these spaces (refer to p. 11).



NOTES ON APLD OPERATION

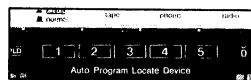
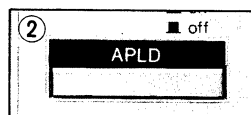
1. The APLD may not function perfectly at all times with tapes containing the following characteristics:
 - a. The recorded signal on the tape is of an intermittent nature (speech, music with silent passages etc.).
 - b. The recorded signal on the tape contains soft classical music, solo performance, modern jazz, etc.
 - c. The recorded signal on the tape is of low strength.
 - d. The recorded programme items are separated by less than three second gaps (during which there occurs no signal).
 - e. The recorded programme items are separated by gaps which are not free of noise or stray signals.
2. If the APLD function is activated near the end of a selection, one programme may be skipped. Check by watching the APLD programme number indicator as it is displayed.
3. Avoid locating the unit in the vicinity of powerful magnetic fields, such as those generated by TV sets, dynamos or other electrical appliances.
4. Do not depress the forward APLD or reverse APLD button while recording a cassette.
5. When the APLD is functioning (searching for a programme item in either forward or reverse), the speakers may emit a slight high-pitched sound. This is not due to any malfunction of the unit, and does not present need for alarm.

PREPARING TAPES FOR APLD OPERATION

In order for the APLD to operate correctly, there must be a space of at least 4 seconds' duration between each item on the tape. Most commercially available pre-recorded tapes are suitable for use with this tape scanning system. In order to edit space (non-signal space) on other tapes, follow the "APLD SPACING" instructions on page 13.

PROGRAMMING THE APLD NUMBER

APLD numbers can be programmed when the unit is either in the playback mode, APLD mode or when the power switch is on and the "tape" button has been depressed.



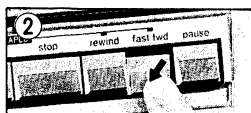
1. Count the number of blank spaces (musical gaps) on the tape between the current tape position and the desired selection.
2. Enter that number into memory by depressing the APLD programme set button the same number of times. The corresponding APLD programme number indicator will illuminate. The number appearing on the APLD programme number indicator shows the number of programmes the APLD will skip.
 - Depressing the APLD programme set button once will cause the APLD programme number indicator to advance from "1" by one, as far as "5", at which point the indicator will return to "1". The progression is as follows:
"1 → 2 → 3 → 4 → 5 → 1 → 2 ..."

NOTE:

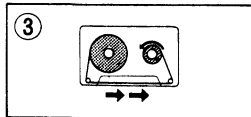
- It is necessary to enter the APLD number only when wishing to skip more than one space on the tape. It is not necessary to use the APLD to repeat the current selection or skip ahead to the next selection.
- The APLD can only accommodate numbers up to 5. To locate selections separated by more than 5 spaces, have the APLD locate the fifth space, then reactivate for the additional number of spaces necessary to reach the desired selection.

FORWARD APLD OPERATION

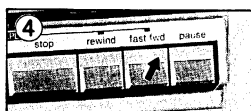
1. Perform steps for "PROGRAMMING THE APLD NUMBER", on page 10.



2. Depress the forward APLD button while playback is in progress.



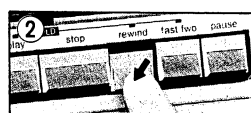
3. The tape will advance rapidly while the recorder searches for the desired selection. As spaces are passed, the LED indicator will show the number of spaces remaining until the desired selection is reached. Even while the tape is advancing rapidly, it is possible to change the desired APLD number by pushing the APLD programme set button.



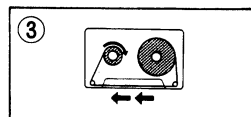
4. When the recorder reaches the desired space between selections, it will automatically release the forward APLD button and start playback of the next selection.

REVERSE APLD OPERATION

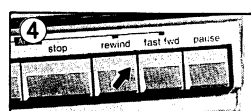
1. Perform steps for "PROGRAMMING THE APLD NUMBER", on page 10.



2. Depress the reverse APLD button while playback is in progress.



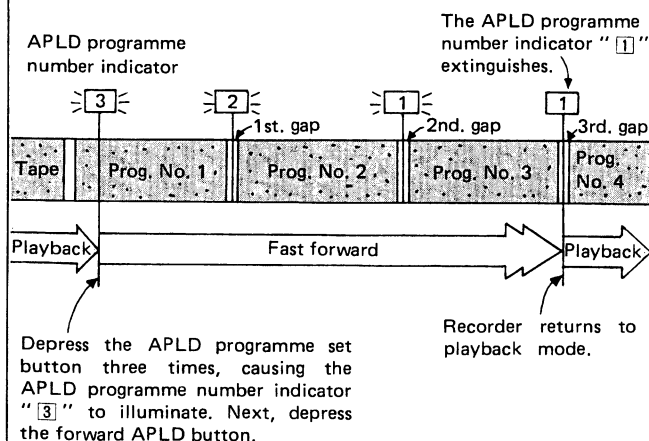
3. The tape will rewind while the recorder searches for the desired selection. As spaces are passed, the LED indicator will show the number of remaining spaces until the desired selection is reached. Even while the tape is rewinding, it is possible to change the desired APLD number by pushing the APLD programme set button.



4. When the recorder reaches the desired space between selections, it will automatically release the reverse APLD button and start playback of the selection.

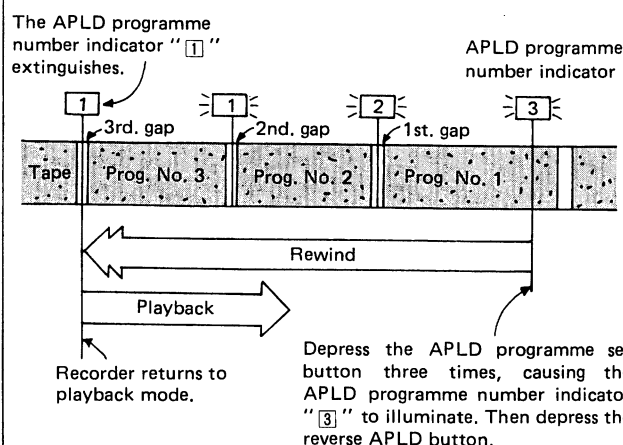
EXAMPLE

To skip three selections in the forward direction and start playback automatically from the beginning of the fourth selection:



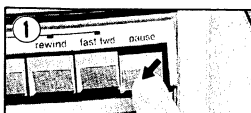
EXAMPLE

To skip three selections in the reverse direction and start playback from the beginning of the third selection:

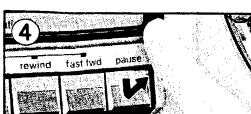


Forward APLD Pause Control

1. If it is desired to stop the tape at the beginning of the specified selection, depress the pause (II) button prior to performing the above operations.



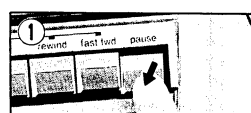
2. Perform the above operations for forward APLD.
3. When the desired space is reached, the forward APLD button will disengage, and the tape will stop temporarily.



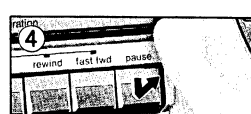
4. Depress the pause (II) button again to resume playback from the beginning of the desired selection.

Reverse APLD Pause Control

1. If it is desired to stop the tape at the beginning of the specified selection, depress the pause (II) button prior to performing the above operations.



2. Perform the above operations for reverse APLD.
3. When the desired space is reached, the reverse APLD button will disengage, and the tape will stop temporarily.



4. Depress the pause (II) button again to resume playback from the beginning of the desired selection.

CHANGING AN APLD NUMBER

To change the programmed APLD number or correct a programming mistake, simply continue depressing the APLD programme set button until the desired APLD programme number indicator illuminates.

CAUTION:

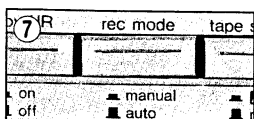
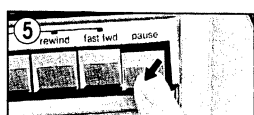
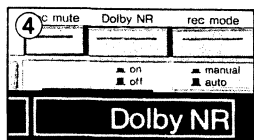
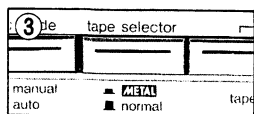
If the stop (■) button is depressed while the APLD is operating, the APLD function will stop operating, but the relevant APLD programme number indicator will remain lit.

When you want to start the APLD functioning again, look carefully at the APLD programme number indicator and set the programme you desire.

Please refer to the instructions on page 10.

7 RECORDING FROM THE UNIT'S RADIO

When recording important selections, be sure to make a preliminary test to ensure that the desired material is being properly recorded.



1. Tune to the desired station (refer to instructions on pages 7 and 8).
2. Load a cassette into the cassette compartment (refer to instructions on p.9). Make sure that the protection tabs are intact (refer to p. 8).
3. Set the tape selector switch to either the "normal" or "METAL" position. Refer to the table on page 9 to determine the proper (tape) setting.
4. To suppress tape hiss, set the Dolby NR switch to the "on" position. The Dolby NR indicator illuminate. If this circuit is not needed, set the Dolby NR switch to the "off" position. Recordings made with the Dolby NR circuit on must be reproduced with this circuit on for best results.

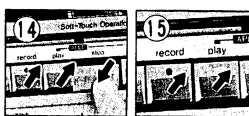
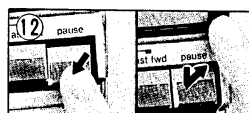
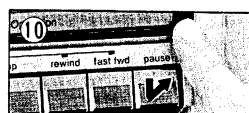
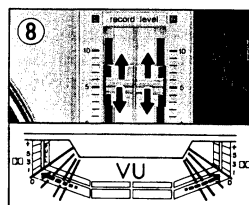
5. Depress the pause (II) button. Cassette tapes are normally provided with leader tapes at both ends. Therefore with a completely wound tape, this lead should be allowed to pass through the recorder for about five seconds.

6. Depress the record (●) button. This will also engage the play (▶) button.

Note:

- * The record (●) button cannot be depressed when the compartment is loaded with a cassette tape without protection tabs (such tapes are protected against erasure. refer to p. 8).

7. Set the record mode selector switch either in the "auto" or "manual" position. When set in the "auto" position, the level of the input signal strength is controlled automatically by the ALC (Automatic Record Level Control) circuit. When set in the "manual" position, adjust the recording level with the record level controls while watching the VU meters. But first please refer to step 8 below.



8. Adjust the record level controls (right and left channels) so that the VU meters just reach the "00" mark (with Dolby NR on) or the "0" mark (with Dolby NR off) on the meter scale at the highest sound level that you want to record. Now the recorder is ready for recording.

9. Slide the BEAT CANCEL switch to the A, B or C position that is, to the position allowing the lowest level of interference during the MW or LW broadcast.

10. Depress the pause (II) button a second time to release it and begin recording.

11. The volume, bass and treble controls may be adjusted with no effect on the recording level input signal.

12. Depress the pause (II) button to temporarily discontinue recording. The tape will stop at this point. To resume recording from the same point, release the pause (II) button by depressing it a second time.

13. During the recording of radio programme it is necessary to edit spaces between programme selections for future APLD use (refer to instructions on page 13).

14. Depress the stop (■) button to discontinue recording.

15. All buttons will be released automatically when the end of tape is reached. (Auto stop) However, radio reception will continue uninterrupted. If it is desired to turn off the radio at this time, set the power switch to the "⏻/sleep" position prior to reaching the end of the tape (refer to instructions for "SLEEP SYSTEM" on page 13).

DIGITAL TAPE COUNTER

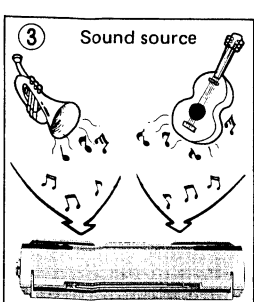
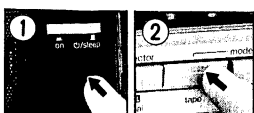


Depress the button at the side of the counter to reset to "000". The counter will advance while recording or playback is in progress. These readings provide a useful reference during recording and playback.

8 RECORDING FROM THE UNIT'S MICROPHONES

NOTE:

- * Do not connect any plug to the external microphone sockets (EXT MIC) and record/playback socket (AMP) during recording with the unit's microphones.
- * Monitoring of recording is not possible.



1. Set the power switch to the "on" position.
2. Depress the "tape" button of the mode selector switch.
3. Turn the front panel of the unit so that it is facing the sound source, and locate the unit for optimal reproduction.
4. Perform steps 2 to 8, and step 10 of "RECORDING FROM THE UNIT'S RADIO".

CAUTION:

When playing back material recorded with the unit's microphones, if the direction of the unit is reversed to face the listener, the sound from right and left will also be reversed (refer to illustration below).

Sound recorded from the right-hand internal microphone will be heard from the right-hand speaker, and sound recorded from the left-hand internal microphone will be heard from the left-hand speaker.

- * To record material for which right-left sound location is an important factor, use separate external microphones.

Recording



Playback



9 APLD SPACING

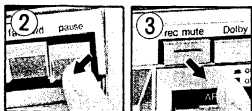
The majority of commercially available prerecorded cassette tapes contain spaces of sufficient duration between selections to be used with the APLD. When recording cassette tapes, it is necessary to separate the selections during recording, or to edit spaces into continuously recorded cassette tapes.



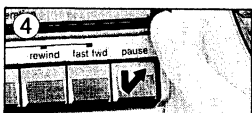
1. Depress the record muting button (for about 5 seconds) during recording at a point suitable for selection editing.

Note:

- * Since the record muting button cannot be locked into place, it is necessary to keep this button depressed for the entire duration of editing time.



2. After sufficient editing time has elapsed, depress the pause (II) button before releasing the record muting button.
3. Release the record muting button. The space is now edited onto the cassette tape recording.



4. Depress the pause (II) button a second time to release it and begin recording of the next selection.
5. Perform steps 1 — 4 to edit spaces between selections so that the tape may be used for future APLD operation.

NOTE:

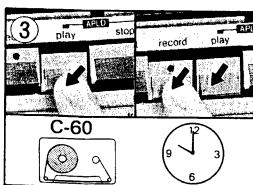
Most standard records are produced with spaces of sufficient duration between programme items. Therefore, it is not necessary to edit programme item spaces when recording from such records.

11 SLEEP SYSTEM

When the end of a tape is reached — for playback or recording — the unit will stop automatically, and all buttons will be disengaged. This feature is useful as a timing device for turning off the unit's radio, (after a cassette tape is allowed to run for its entire length.).

- The running time of the tape will depend on the type of cassette tape. For example, C-60 tape runs for half an hour before turning off the unit. For shorter time periods, advance the tape to an appropriate position, then proceed with this operation.

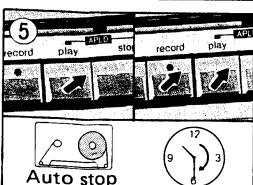
Tape used	Timer Period
C-46	approx. 23 mins.
C-60	approx. 30 mins.
C-90	approx. 45 mins.



1. Tune in the desired broadcast. (Refer to instructions on pages 7 and 8.)
2. Load a cassette tape into the cassette compartment.
3. To go to sleep while listening to the radio, depress the play (▶) button. To go to sleep while recording from the radio, depress the record (●) button. This also engages the play (▶) button.



4. Set the power switch to the "on" / "sleep" position.

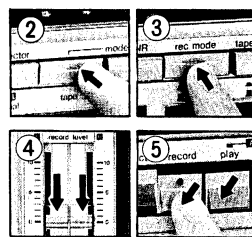


5. When the end of the tape is reached, the tape will stop and the radio will turn off automatically.

10 ERASING RECORDED TAPES

Previously recorded material will be erased automatically whenever new material is re-recorded onto the tape.

If it is desired to erase a previously recorded tape without recording over it, follow the instructions below.



1. Load the tape to be erased into the cassette compartment.

2. Depress the "tape" button of the mode selector switch.

3. Set the record mode selector switch to the "manual" position.

4. Slide the record level controls (right and left channels) to the "0" position.

5. Depress the record (●) button. This will automatically engage the play (▶) button and begin erasing the tape.

6. When the end of the tape is reached, the tape will stop and all buttons will disengage. (Auto stop)

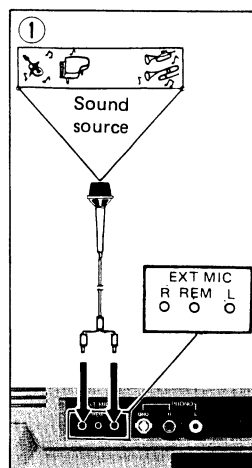
For erasure of shorter tape segments, use the record muting button during recording.

USE WITH EXTERNAL UNITS

1 RECORDING FROM AN EXTERNAL MICROPHONE

NOTES ON USING MICROPHONES:

- Avoid feedback by separating external microphones from speakers or by reducing volume.
- Stereo microphones should have an impedance of 400 ohms to 3 k ohms and be equipped with a plug 3.5mm in diameter.
- SHARP microphone MC-57CL or MC-55CL (optional accessory) is recommended.



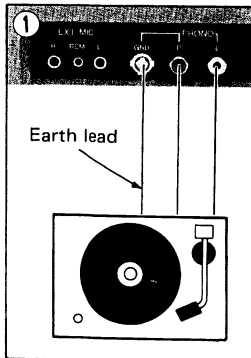
1. Connect the microphone plugs to the external microphone right-hand socket (EXT MIC-R) and the external microphone left-hand socket (EXT MIC-L).
2. If your microphone is fitted with a remote stop/start switch, insert the microphone's remote stop/start switch plug into the remote control socket (REM).
3. Set the power switch to the "on" position.
4. Depress the "tape" button of the mode selector switch.
5. Perform steps 2 to 8, and step 10 of "RECORDING FROM THE UNIT'S RADIO" (refer to p. 12).

Use stereo headphones in order to monitor the recording. Monitoring is also possible with the internal speakers, but this may result in feedback whistle (howling); therefore the use of headphones is advisable. Connect headphones to the "phones" socket on the front panel.

2 CONNECTING AN EXTERNAL RECORD PLAYER

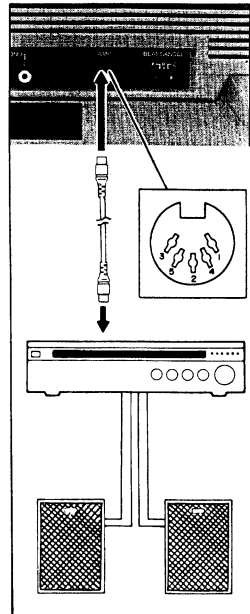
Since this unit contains an internal phono equalizing circuit, it can be used only with record players using magnetic cartridges which produce quality sound signals. Players with ceramic or crystal cartridges are not suitable for use with this unit.

• Since feedback (howling) may result if the unit and record player are placed in close proximity, they should be separated when in use to prevent such an occurrence.



1. Connect the output leads of the magnetic cartridge record player (optional extra) to the PHONO sockets of the unit. If the record player is equipped with an earth lead (or terminal), connect it to the GND (PHONO) terminal of the unit.
2. Set the power switch to the "on" position.
3. Depress the "phono" button of the mode selector switch.
4. Set the record player in play mode.
5. Adjust the unit's controls (refer to instructions on page 7).
6. To record from discs, follow the instructions in "RECORDING FROM THE UNIT'S RADIO" on page 12.

3 CONNECTING AN EXTERNAL AMPLIFIER



Use a standard lead fitted with DIN plugs to connect the unit to amplifier. This type of lead permits recording and play via external equipment.

1. Plug one end of lead into the stereo record/playback socket (AMP).
2. Plug the other end of lead into DIN type socket of the amplifier.
3. Record/playback socket connections are shown at the left. If amplifier is not supplied with such a fitting, an alternative lead and fitting can be supplied by dealer.

1		Left Input
2		Common Earth
3		Left Output
4		Right Input
5		Right Output

4. Adjust the unit to record mode (page 12) or to playing mode (page 10).

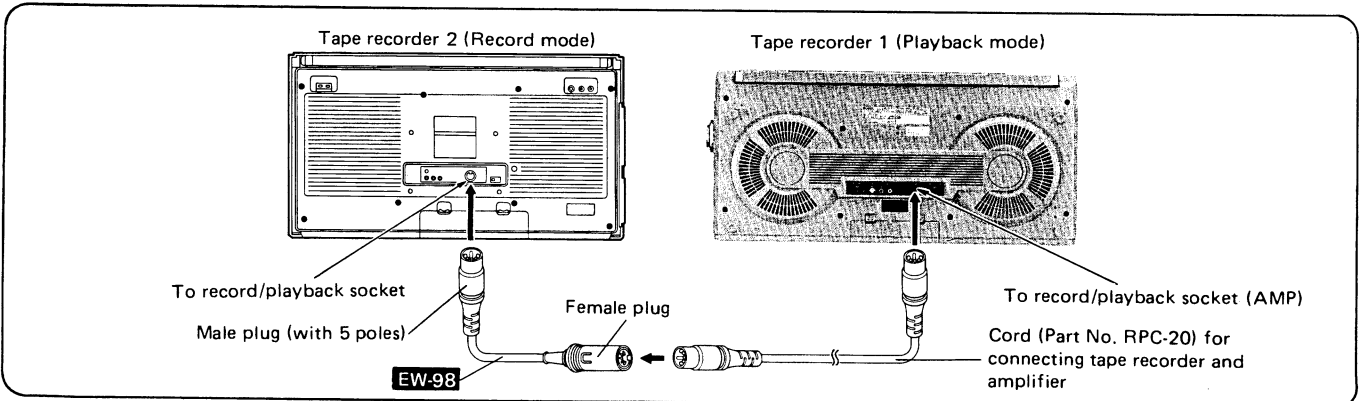
4 DUBBING

1. The use of a dubbing adaptor (not supplied, Part No. EW-98) permits the connection of two recorders for tape dubbing. The illustration below shows how to connect the units in order to dub programmes of tape recorder 1 onto tape recorder 2. Note that satisfactory results may not be obtained if proper connection procedure is not followed.

2. Set the tape recorder 2 in recording mode, and tape recorder 1 in playing mode.

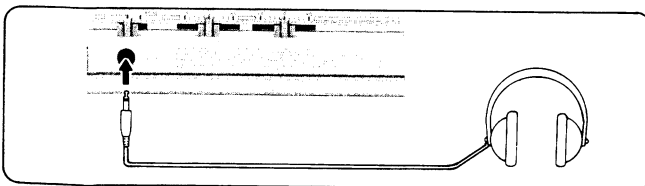
WARNING:

Do not connect another tape recorder to the record/playback socket of this unit without using a dubbing adaptor.



5 HEADPHONES

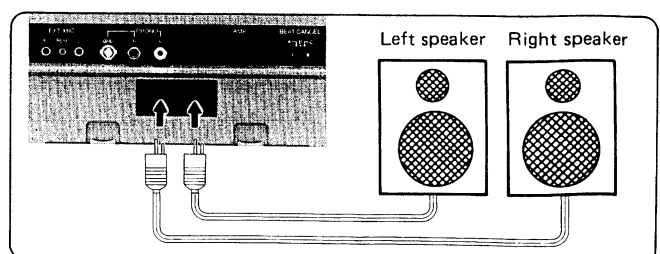
Connect the headphones plug to the "phones" socket on the front panel of the unit. Speaker output will be automatically disconnected. The volume level can be adjusted with the volume controls. Recommended SHARP stereo headphones: HP-30, HP-40, HP-200, HP-300 or HP-400H. Headphones with 8 ohm ~ 25 ohm impedance are also suitable for use.



6 CONNECTING EXTERNAL SPEAKERS

Use external speaker leads with DIN type plugs (speakers, leads, and plugs not supplied). Speakers require 3 ohm to 8 ohm impedance. Fit the speaker leads to speaker system that phasing (polarity) of speakers is equal. For this it may be necessary to consult your SHARP service engineer. Connect the external speaker plugs to the appropriate external speaker sockets (EXT SP).

When you want to listen through the external speakers, set the speaker selector switch on the front panel of this unit to the "ext sp" position. Refer to the instructions on page 7, "SPEAKER SELECTOR SWITCH".

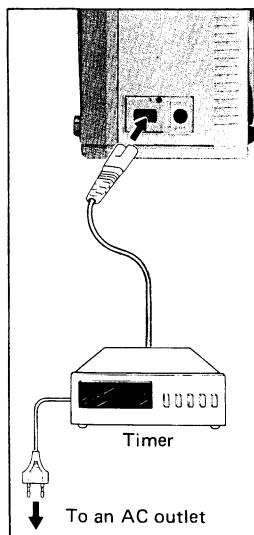


7 CONNECTING A TIMER UNIT

Any commercially available timer with an "automatic on" system enables the unit to begin recording, playback or radio operation automatically at any predetermined point in time.

AUTOMATIC PLAYBACK START

1. Connect the AC supply lead of the unit to the "automatic on" outlet of the timer.
2. Connect the AC supply lead of the timer to an AC wall outlet.
3. Perform steps 1 – 5 for tape playback (refer to page 10).
4. Depress the play (▶) button, and adjust volume, bass and treble to desirable levels.
5. Depress the stop (■) button.
6. Set the power switch to the "⏻/sleep" position.
7. Adjust the timer to the desired time for playback to begin.
8. Depress the play (▶) button.
9. When the pre-set time arrives, power will be supplied to the unit and playback will begin.



ENGLISH

AUTOMATIC RECORDING START

1. Perform steps 1 and 2 for "AUTOMATIC PLAYBACK START".
2. Tune the radio to the desired station (refer to instructions on pages 7 and 8).
3. Load a tape into the cassette compartment. Check to ensure the erasure protection tabs are intact.
4. To adjust the recording level etc., perform steps 3 to 8 for "RECORDING FROM THE UNIT'S RADIO" on page 12.
5. Depress the stop (■) button, then release the pause (||) button.
6. Set the power switch to the "⏻/sleep" position.
7. Set volume controls at the "0" position.
8. Adjust the timer to the desired time for recording to begin.
9. Depress the record (●) button. This also engages the play (▶) button.
10. When the pre-set time arrives, power will be supplied to the unit, and recording will begin.

When the end of the tape is reached, the tape stops, the unit returns to the neutral mode and the radio turns off automatically.

AUTOMATIC RADIO START

1. Perform steps 1 and 2 for "AUTOMATIC PLAYBACK START".
2. Tune the radio to the desired station (refer to instructions on pages 7 and 8).
3. Adjust the timer to the desired time for radio listening.
4. When the pre-set time arrives, the built-in radio will be turned on.

NOTE:

Some timers may operate in a manner different from the above descriptions. Carefully read the instruction manual before using the timer.

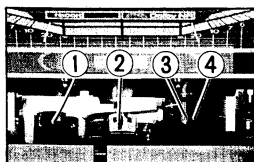
MAINTENANCE

CLEANING THE TAPE HEADS

Clean the heads frequently to remove dust and tape residue. Dirt on the heads will impair the sound quality of both recording and playback.

There are two methods for head cleaning:

- A. The simpler method is to use a head cleaning cassette, available at most audio stores. Follow the instructions supplied with the cleaning cassette.
- B. The heads can be also cleaned manually:
 1. Depress the eject (▲) button in order to open the cassette compartment. Remove the cassette tape in the compartment.
 2. Depress the play (▶) button.
 3. Wipe the heads with a soft lint-free cloth or cotton swab that has been partially soaked in alcohol (methylated spirit), until the heads are free of all dirt and residue deposits.



- ① . . . Erasing head
- ② . . . Recording/playback head
- ③ . . . Capstan
- ④ . . . Pinch roller

CLEANING MECHANICAL PARTS

Dust or magnetized particles attached to the capstan or pinch roller are the direct cause of uneven tape speed during recording and playback. This is the cause of "wow" and "flutter", namely tape speed variations below and above normal speed, respectively. The capstan or pinch roller should therefore be thoroughly cleaned with a soft lint-free cloth or cotton swab partially soaked in alcohol (methylated spirit).

CLEANING THE CABINET

Use only a damp cloth for cleaning the cabinet.

SPECIFICATIONS

Power source:	AC 110V ~ 120V and 220V ~ 240V, 50/60Hz DC 15V (UM/SUM-1, R-20, HP-2 or D type x 10, or external 15V DC)
Speakers:	20 cm woofer x 2 5 cm tweeter x 2
Output power:	MPO; 20W (10W + 10W) (AC operation)
(DIN 45 324)	RMS; 15W (7.5W + 7.5W) (DC operation)
Semiconductors:	10 ICs 39 transistors 40 diodes 9 LEDs 2 FETs
Dimensions:	Width; 677 mm Depth; 169 mm Height; 326 mm
Weight:	8.5 kg without batteries

TAPE RECORDER

Tape:	Compact cassette tape
Frequency response:	30Hz – 14,000Hz (normal tape) 30Hz – 17,000Hz (metal tape)
Signal/noise ratio:	50 dB (normal tape, Dolby NR off) 60 dB (metal tape, Dolby NR on)
Wow and flutter:	0.17 % (DIN 45 511)
Input sensitivity and impedance:	External mic; 600 ohms Phono; 50 k ohms Record/playback socket; 0.7 mV/4.3 k ohms
Output level and impedance:	Headphones; 8 ohms – 25 ohms External speakers; 3 ohms – 8 ohms Record/playback socket; 0.65V/50 k ohms

RADIO

Frequency range:	LW; 150 kHz – 285 kHz MW; 520 kHz – 1,620 kHz SW; 5.95 MHz – 18.0 MHz FM; 87.6 MHz – 108 MHz
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Sharp reserves the right to make design and specification changes for product improvement.